

A PROPOSAL FOR PERFORMANCE-BASED EP REGULATORY CONCEPT

Conceptualization of a Performance-Based EP Regulatory Regimen¹

Introduction:

The staff of the U.S. Nuclear Regulatory Commission (NRC) has conceptualized the basis for a voluntary performance-based emergency preparedness (EP) regulatory regimen. This regimen could be adopted in lieu of the existing EP regulations contained in Title 10, Part 50, "Domestic Licensing of Production and Utilization Facilities," of the *Code of Federal Regulations* (10 CFR Part 50). If the Commission approves activities to develop this concept, the staff would engage stakeholders, including the Department of Homeland Security (DHS), to develop a fully detailed proposal, inform the Commission of the proposal, and initiate subsequent development of performance-based regulations.

The current EP regulatory regimen provides EP at a high level. However, as the EP program has matured and industry performance has improved, the staff recognized the benefits of a performance-based regulatory structure. The current regimen tends to emphasize compliance with, and control over, emergency plans and facilities. The performance-based regimen would focus licensee efforts on actual performance competencies, rather than control of emergency plans and procedures. Regulatory oversight would focus on licensee performance instead of licensee processes and procedures. Creating a performance-based EP regulatory regimen could achieve a higher level of preparedness, as the regimen would focus on results and abilities rather than on means.

General Oversight Considerations:

The staff would design the performance-based regimen to ensure that licensee emergency response would be maintained at a high level. This performance-based regimen would also include a base level of NRC requirements for emergency plans.

The proposed performance-based regimen would not change certain areas, such as emergency planning zone size, corrective actions, the contingency for nonparticipation by offsite response organizations, and compliance with emergency action level and protective action recommendation standards. The NRC, with input from DHS, would still make a reasonable assurance determination, in accordance with the current regulations. However, the basis for the determination would include demonstrations of regulatory-required EP competencies. Biennial exercises and selected drills would be inspected to verify compliance with the new requirements.

The performance-based regimen would also be supported by a set of performance indicators that would measure emergency response performance in the period between drill/exercise inspections. The current EP-related reactor oversight process performance indicators would be a starting point for development. Under the proposed regimen, performance indicators would be required by regulation, rather than voluntary. The Agency would request stakeholder input during development of performance indicator to enhance the end product. Input to the

¹ This is an internal NRC conceptual proposal, which has not been introduced, distributed, or coordinated with external stakeholders, including DHS.

performance indicators as well as implementation of corrective actions would be inspected regularly.

Example Performance-Based Regimen Elements:

- The staff would develop a set of overarching performance goals to guide the design of the performance-based regimen.
- The following are examples of performance demonstrations:
 - The on-shift emergency response organization (ERO) will perform in a facility that simulates the control room, while responding to transients specified by the scenario. It will demonstrate the numerous competencies necessary for emergency response.
 - The augmented ERO will perform in actual emergency response facilities. It will demonstrate the numerous competencies necessary for emergency response from the Technical Support Center, Emergency Operations Facility, Joint Information Center, and Operations Support Center.

Performance indicators:

The Agency would develop performance indicators, soliciting stakeholder input. The performance indicator set could include the following:

- drill and exercise performance
- ERO participation
- alert and notification system performance
- facility and equipment availability
- timeliness of team response
- demonstrated licensee success during evaluated drills and exercises

Further Development Actions:

If the Commission directs the staff to pursue the performance-based regimen, a series of developmental activities would begin. A team of EP professionals would be assembled with national laboratory assistance to further develop the concept of performance-based oversight of nuclear power plant EP programs. The team would address the following issues:

- performance standards for emergency response facilities
- development of performance indicator system

- development of performance standards to measure the adequacy of the performance demonstrations and the critique process
- development of a rulemaking plan
- development of a pilot program for implementation (with industry volunteers)
- development of inspection procedures
- development of a significance determination process for noncompliance issues
- development of a performance-based system for offsite response organizations
- development of required scenarios for each 6-year cycle